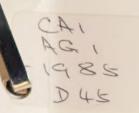
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> Canada. Office of the Auditor General Audit risk and audit risk analysis in value-for-money auditing (Discussion paper no. 45)







Office of the Auditor General of Canada



Bureau du vérificateur général du Canada

DISCUSSION PAPER NO. 45

AUDIT RISK AND AUDIT RISK ANALYSIS IN VALUE-FOR-MONEY AUDITING

by

Rona Shaffran

March 1985

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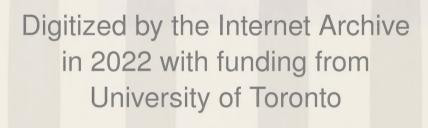
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TNTRODUCTION

The available literature on audit risk generally addresses the subject from the attest perspective. Audit risk in the context of value-for-money auditing has received limited treatment.

This paper draws on the attest literature to define overall audit risk in terms of the value-for-money areas of economy, efficiency and effectiveness. The effects of overall audit risk, both for the audit entity and for our Office, are discussed. The paper concludes by exploring approaches to analyse and minimize overall audit risk.

The Professional Practices group requested this work for consideration in revising the Comprehensive Auditing Manual. The paper was prepared based on a review of the literature on audit risk and an examination of our current Comprehensive Auditing Manual and Audit Guides. Drafts of the paper were discussed with a number of Assistant Auditors General, Principals, Directors and Auditors in our Office. Their time and contributions are gratefully acknowledged.

PURPOSE

Two recent Office initiatives highlight the importance of addressing audit risk. The Report on the Review of the Evolution of Comprehensive Auditing, May 1983, notes substantial variation in the current process of selecting areas for audit. It recommends improved guidance for determining and selecting key areas for audit and the

factors (materiality, risk, etc.) to be considered in selecting them.
With regard to our current situation, the Report states that:

Existing guidelines (including those relating to materiality and risk) for selecting key areas for audit (lines of enquiry and matters of potential significance) are seen to be insufficient. 1

The <u>Updated Draft Report on the Audit Philosophy Project</u>, 25
May 1984, outlines that departmental audit teams should do sufficient
Section 7 work each year to recognize areas of significant risk and
should develop an appropriate audit and reporting strategy related to
all such areas. Moreover, the Report emphasizes that such comprehensive
risk analysis of programs and departments would cover all areas of our
mandate - attest, authority, value-for-money and other matters. It
recommends that:

What is 'significant' and what defines a 'risk' has to be addressed and clarified to develop audit guidelines for both planning and reporting. ²

DEFINITION

This paper defines overall audit risk in general value-for-money terms of economy, efficiency and effectiveness. Overall audit risk, however, may vary relative to the audit mandate being applied. Thus, overall audit risk in the context of audits carried out under the Auditor General Act may have different ramifications than audit risk in the context of the Special Examination. The definition outlined here can be adapted to the particular audit mandate at issue.

In value-for-money terms, overall audit risk is the possibility that significant deficiencies exist in the audit entity or the area audited and the auditor unknowingly fails to detect these deficiencies. Overall audit risk is a combination of two separate elements - client risk and audit risk. Client risk exists independent of the audit. It is the possibility that significant deficiencies exist in the audit entity or the area audited. Audit risk is the possibility that audit procedures will not detect the significant deficiencies existing in the audit entity.

Client risk results from risks inherent in the nature of the entity's operations - inherent risk - and risks arising from weaknesses in the entity's internal control systems - control risks. Inherent risk is the possibility that significant deficiencies will arise by virtue of the program, its relationships with other parties, or the environment in which it operates. In other words, inherent risk is the possibility that significant deficiencies will arise because of the susceptibility of the audit entity or the environmental conditions in which it operates to such deficiency. Some entities, therefore, have greater inherent risk, by definition, than do others. For example, all other considerations being equal, an entity with extensive interdepartmental operations or one with many decentralized activities can be expected to be at greater risk of significant deficiency than an entity that is only intradepartmental in nature.



Control risk is the possibility that significant deficiencies will occur by virtue of weaknesses in relevant controls. In other words, control risk is the possibility that significant deficiencies will not be prevented or detected on a timely basis or at all by the entity's system of internal controls.

The second element of overall audit risk - audit risk - pertains to the effectiveness of audit methodology, audit procedures and their application by the audit team. Audit risk can result from sampling risk and non-sampling or other risks. Sampling risk is the possibility that the sample examined is not representative of the total population. Other risks or non-sampling risks include: the possibility of the auditor not detecting a deficiency within the sample; failing to design a procedure capable of disclosing the deficiency or failing to consider relevant evidence; using and relying on data of uncertain quality; using faulty assumptions; and, arriving at illogical conclusions. 4

Overall audit risk might also cover the possibility that the audit will conclude that a significant deficiency exists when this is not the case. Such a risk, however, would appear to be low for at least two reasons. First, it is in the audit entity's self-interest to bring inaccuracies of that type to our attention prior to reporting. Second, the likelihood of the error surviving to the final report is remote given audit testing in the examination phase, internal reviews and internal challenges. Paul Munter, writing in the CPA Journal, argues that risk of this type is concerned with the efficiency of the



examination (i.e., how quickly the proper audit conclusion is reached) and is not audit risk as defined by the Statement on Auditing Standards
No. 47. For the reasons outlined above, the paper will not address this form of overall audit risk.

EFFECTS OF OVERALL AUDIT RISK

Where an audit concludes that value-for-money has been achieved or that no significant deficiencies have been observed when, in fact, such deficiencies exist, the effects are far-reaching, both for the audit entity and for our Office.

For the audit entity, if significant deficiencies go undetected they will in all likelihood persist. This situation can result in continued diseconomies, inefficiencies or ineffectiveness. The entity's assets will be at risk as a result. Possible effects may range from loss of revenue to loss of public confidence.

For our Office, overall audit risk has serious effects in terms of our mandate. We provide false comfort and false assurances to Parliament, which relies on our audit conclusions, if we unknowingly fail to detect significant deficiencies and report that value for money has been achieved or that no significant deficiencies are present. We fail to fulfil our role and mandate as a result. Moreover, our credibility and stature will be severely undermined if the entity realizes our error or if the significant deficiency is detected and reported by some other body.



APPROACHES FOR ANALYSING AND MINIMIZING OVERALL AUDIT RISK

Overall audit risk can occur if auditors select matters for examination that do not contain the significant deficiencies present or, if, in relation to any specific matter selected, the audit fails to detect the significant deficiencies that exist. This section outlines procedures for minimizing overall audit risk.

To minimize overall audit risk, analysis of risk should play a key role in selecting areas for audit and in designing an audit strategy during the planning phase. To select areas for audit based on risk, it is necessary to determine the extent of client risk present in the entity - that is, to identify areas containing or likely to contain significant deficiencies.

The extent of client risk present in the entity is essential in determining the audit strategy and the level of audit intensity required to conduct the examination. Thus, to minimize overall audit risk, it is also necessary to reduce audit risk by applying appropriate audit procedures capable of detecting significant deficiencies.



Analysing Client Risk

To select areas for audit based on risk, the first step is the recognition by the audit team that a given condition represents a significant deficiency or carries the risk of significant deficiency.

The possibility that a significant deficiency exists or is likely to exist will vary with the presence or absence of certain conditions in the audit entity. For purposes of this paper, these conditions are called client risk indicators.

The following charts of client risk indicators are organized by inherent and control risk. These charts are a generic and preliminary listing of conditions in an audit entity that represent a significant deficiency or carry the risk of significant deficiency. For each audit, it will be necessary to identify client risk indicators peculiar to the entity. The charts can be used by the auditor during the planning stage as one means of ensuring that significant deficiencies present are recognized as such. It has been observed that, used in isolation, such a checklist approach will give rise to a false sense of security. Charts of this type, however, are intended to be used as an aid to the auditor in combination with other procedures, judgement, experience and practical concerns.



During the audit planning phase, the auditor should collect information on the extent to which client risk indicators are present. The auditor should begin by assessing inherent risk. For each indicator, the auditor should determine if it is present and, if so, the extent to which it exists - high, medium or low occurrence. The auditor may also need to weight the indicator in relation to its importance in the context of the entity. For each indicator present, the auditor should consider whether it has resulted in any significant effects in the past or whether it is likely to result in any such effects in the future. Effects might include loss of revenue, lowered public confidence, etc. The auditor should also examine the combined effects of all the inherent risk indicators present. It may be that the particular environment of the entity or a management style that is especially aware of the program's constituency could cancel out the otherwise negative effect of an indicator.

The charts provide a preliminary list of inherent risk indicators. The types of value-for-money deficiencies - economy, efficiency or effectiveness - relevant to the indicator are also noted. The indicators are organized by: environment; mandate; resources; operations; management style; staff; and audit experience.



	Type of S	Significant I Effic	Deficiency Effect
Inherent Risk Indicators			
Environment			
1. International or domestic political, social, environmental or economic issues that could have adverse effects on operations.	Х	X	Х
2. Pressure on management (from press, Parliament, central agencies, etc.) to present results in a particular light. Increased performance pressure may increase pressure to circumvent controls, thereby increasing the probability of significant diseconomies inefficiencies, or ineffectiveness.	Х	Х	X
3. High rate of consumer complaints - consumer complaints can indicate the presence of inefficiencies or the lack of effectiveness.		х	х
4. Demands from aggressive constituent lobby groups - this can increase the probability of diseconomies, inefficiencies or ineffectiveness.	X	Х	Х
Mandate			
5. New legislation or regulatory provision recently applied - a new approach or procedure can result in the increased probability of significant inefficiencies during the "break-in" period.	х	х	
6. <u>Unclear legislative mandate</u> - lack of clarity can result in significant deficiency in the area of effectiveness and efficiency.		Х	Х
Resources			
7. Nature of expenditures - certain types of expenditures are more at risk of deficiency than others. e.g., a granting program is more risky than a program making small, regular payments, like Old Age Pensions.	х	Х	Х



	Type of S: Econ	ignificant D Effic	eficiency Effect
8. Large operation in person-years and cost of resources used - the larger the operation, the higher the probability of significant diseconomies or inefficiencies.	х	х	
9. Rapid expansion of operation or rapid internal rate of growth - this stretches personnel such that deficiencies can arise. The more rapid the growth, the higher the probability of a decrease in quality and a subsequent drop in effectiveness.		X	Х
10. <u>Inadequate number of resources</u> - this can result in inefficiency or ineffectiveness.		Х	Х
ll. Large blocks or surges of expenditure (capital assets, manpower, consulting, or steady large acquisitions) - by its nature, this type of operation increases the probability of diseconomies.	х		
12. Operation includes human and material resources that, either individually or together with their related operation and maintenance costs, represent a significant portion of present or expected future budgets - by its nature, this type of operation increases the probability of economy-related deficiencies.	Х		
13. Disproportionate growth in resources used, in comparison with growth in workload - to the extent that this is evident, inefficiencies may be present.		Х	
14. <u>Idle personnel</u> - this can indicate presence of inefficiencies or diseconomies.	х	Х	



	Type of Econ	Significant Effic	Deficiency Effect
15. <u>Underused equipment</u> - this can indicate the presence of diseconomies and inefficiencies.		Х	
16. Vacant or poorly used building space - this can indicate the presence of inefficiencies or diseconomies.	х	х	
17. A lot of EDP systems and equipment - this can indicate that diseconomies or inefficiencies are present.	х	Х	
18. <u>Program cuts/restraint</u> - this can increase the probability of inefficiencies and ineffectiveness. Alternatively, it can have the reverse effect.		х	Х
<u>Operations</u>			
19. Operating complexity - as operating complexity increases - e.g. interdepartmental or decentralized operations - the probability of signific duplication and counter-productivity increases.	cant	Х	Х
20. Newly installed operational approach/system - see #5.	Х	х	
21. Routine and repetitive operations - this type of operation can be expected to increase the probability of inefficiencies.		Х	
22. <u>Labour-intensive operations</u> - see #21.		Х	
23. Operations heavily oriented to manual work - see #21.		X	
24. Operations in which delays or errors are important delivery concerns - see #21.		х	
25. Excessive work backlog - backlog may indicate the presence of inefficiencies.		х	



	Type of Significant Deficiency		
	Econ	Effic	Effect
26. Intangible, unmeasurable outputs - these can increase the probability of inefficiencies.		Х	
27. Unmeasurable or inappropriate objectives - these can increase the probability of ineffectiveness.			Х
28. Recently merged operations - this increases the probability of inefficiencies and ineffectiveness during the "break-in" period.		Х	Х
Management Style			
29. Lack of "good faith" in management - this conveys a lack of concern for value for money and can increase the possibility of significant deficiencies of all types.	Х	Х	X
30. Lack of understanding of the program and its constituency by management - to the extent that this exists, the possibility of significant deficiencies increase.	х	х	х
Staff			
31. Poor fit of skills to tasks - the presence of over-qualified staff or inappropriate skills relative to the task can indicate the presence of diseconomies or inefficiencies and can increase the possibility of ineffectiveness.	Х	Х	Х
32. Absence of staff training - the absence of training opportunities in situations where skills are important can increase the possibility of significant deficiencies of all types.	Х	Х	Х



	Type of Econ	Significant Effic	Deficiency Effect
33. <u>Unusually high turnover of staff</u> - lack of continuity in key staff can signal that diseconomies or inefficiencies are present. This situation can also lead to ineffectiveness.	Х	Х	Х
Audit Experience			
34. Long period of time since last internal or external audit - because an audit may deter deficiencies, its effect may be greatest just before or just after an audit. As time passes, the risk of significant deficiencies in all areas increases.	Х	Х	X
35. Previous audit findings - if positive findings were reported previously, this could lead to laxness and thereby increase the possibility of significant deficiencies. On the other hand, previous negative findings can also increase the possibility of significant deficiency.	Х	Х	Х



Analysis of Control Risks

After assessing inherent risks, the auditor should turn to assessing control risks. The preliminary evaluation of control risks during the audit planning phase will provide information on the extent to which internal controls can be relied on to prevent or detect significant deficiencies. To a large extent, the assessment of control risk depends on evaluating the adequacy of the system of controls in effect and the entity's compliance with them. 7

Arthur Andersen's <u>Guide for Studying and Evaluating Internal</u>

<u>Controls in the Federal Government</u> outlines a detailed approach for internal control evaluation that provides a useful model for control risk assessment.⁸

Andersen defines internal controls as the "methods by which an organization governs its activities to accomplish its defined purpose." ⁹

The general objective of an internal management control system is:

... to provide positive assistance in carrying out all duties and responsibilities as effectively, efficiently, and economically as possible, considering the requirements and restrictions of all applicable laws and regulations. 10



The more specific objectives of a satisfactory control system are:

- (1) Promote efficiency and economy of operations.
- (2) Restrict obligations and costs, consistent with efficiently and effectively carrying out the purposes for which the agency exists, within the limits of congressional appropriations and other authorizations and restrictions.
- (3) Safeguard assets against waste, loss, or improper or unwarranted use.
- (4) Insure that all revenues applicable to agency assets or operations are collected or properly accounted for.
- (5) Assure the accuracy and reliability of financial, statistical, and other reports.

The entity's system of internal controls is designed to provide reasonable but not absolute assurance that the organization's activities are being carried out in accordance with its objectives.

Factors such as cost/benefit limit the capacity of internal controls to provide absolute assurance.

Andersen's <u>Guide</u> outlines approaches for identifying relevant internal controls, evaluating the adequacy of the controls using control objectives and identifying risks or effects resulting from ineffective or absent controls. The approach is flexible and is intended to be tailored and adapted to the unique requirements of the entity being audited.



The control risk indicators below are generic controls that can reasonably be expected to be in place in an entity to prevent the occurrence of significant deficiencies. The lists should be viewed by the auditor as a starting point for developing controls that are relevant to the particular entity being examined. The auditor should identify relevant controls and control techniques by considering the inherent risks present and the methods needed to control these, and the key systems and operations of the entity. The auditor should document the impact and combined effect of absent or deficient controls.

The generic controls below are grouped according to broad activity areas or cycles: policy and planning; budgeting; programming; personnel; procurement; asset and liability management; and reporting.

Control Risk Indicators

Policy and Planning - The tasks performed as part of policy and planning that are key to evaluating internal controls involve defining and communicating:

- the objectives of the agency;
- long and short-range plans for the agency;
- the framework for reporting to management;
- responsibilities for safeguarding the agency's assets;



- responsibilities for safeguarding critical asset control forms, critical records, transaction processing areas and transaction processing procedures;
- plans for the replacement or restoration of lost, damaged or altered assets, books or records;
- authority to determine the nature, extent and timing of events;
- authority to initiate transactions;
- authority and procedures for recognizing, processing and reporting the effect of each type of event;
- authority and procedures for determining and modifying transaction processing procedures;
- a plan for classifying activities in accordance with the established plan;
- responsibilities for procedures for the periodic substantiation and evaluation of reported activity, and of compliance with processing procedures. 12



Budget - The budgeting cycle begins with developing a budget, includes the review and approval process, and ends with monitoring the budget versus actual reports and planning for the next budget.

Key functions to evaluate for assessing control risk include:

- planning and scheduling the budget process;
- developing budget forms;
- training in budget procedures;
- distributing instructions and forms;
- co-ordinating operating and financial personnel in budget preparation;
- consolidating and summarizing budget data;
- submitting and controlling the budget through the approval process;
- controlling budget changes;
- communicating budget changes to the organization;



- providing the final budget to finance personnel for use in budget versus actual reporting;
- reviewing budget versus actual reports;
- investigating variations;
- using budget versus actual reports in planning for the next budget. 13

Program - Each program cycle includes the functions that accomplish each of the department's program objectives. For example, in the case of old Age Pensions, this includes distributing pension payments to senior citizens. Thus, the relevant tasks for evaluating program-related internal controls must be determined for the particular program examined. Typical program functions related to internal controls include:

- program planning in accordance with law, regulation and the budget;
- acquiring of personnel and resources to accomplish the program;
- developing standards for program execution such as recipient eligibility based on law, regulation and policy;



- managing people and resources to accomplish objectives i.e.,
 - -- process applications
 - -- establish and enforce regulations
 - -- enforce laws
 - -- provide income security
 - -- audit recipients
 - -- handle complaints
- monitoring of accomplishments of program objectives;
- redirecting resources to better meet objectives;
- planning for and acquiring additional resources as part of the budget process. 14

Administration - Andersen outlines six common administrative cycles:

- personnel
- procurement
- disbursements
 - -- payroll
 - -- other
- receipts
- asset and liability management
- administrative support 15



The cycles most pertinent to a value-for-money examination are personnel, procurement and asset and liability management. Typical tasks related to internal controls for these areas are listed below.

<u>Personnel</u> - This cycle begins with hiring personnel and ends with terminating employment or retirement. Typical control-related functions include:

- recruiting
- testing
- employee selection
- hiring
- assignment
- training
- evaluation
- promotion
- termination
- retirement
- maintenance of personnel records
- wage and salary administration 16



Procurement - This cycle includes functions that:

- draft bid requests;
- advertise;
- evaluate bids;
- acquire property, goods and services through purchase orders and contracts;
- classify, summarize and report what was acquired. 17

Asset and Liability Management - This cycle includes the following functions, some of which will likely be examined as part of the attest review:

- physical control of cash;
- physical control of property and inventory;
- maintenance of receivable, payable, and other asset and liability records;
- control of classified and confidential information and records;
- control of trust funds and related records. 18

Reporting - This cycle includes information from other cycles and analyses, evaluates, summarizes, reconciles, adjusts and classifies the information so it can be reported internally and externally. The end products include operational, financial and other types of reports.

The use of these reports by management to improve the quality of operations is also a key function of reporting-related controls.



Selecting Areas to Audit and Audit Strategy

At the conclusion of the audit planning phase, the auditor should have sufficient information to document areas in the entity that appear to contain or are likely to contain significant deficiencies.

This information can then be weighed in combination with other considerations, such as materiality, to select areas for audit and to plan the audit strategy.

The extent to which inherent and control risks are present in the audit entity has a direct effect on the nature, extent and timing of audit procedures. If inherent and control risks are both high, a low degree of reliance should be placed on internal controls. Consequently, little or no compliance testing may be necessary because compliance with poor controls would provide little comfort. In such a case, there is the need for an increase in audit resources and audit intensity.

Substantive audit testing and stringent evidence would be required.

Alternatively, if inherent and control risks are both low, a high degree of reliance should be placed on internal controls. In this case, extensive compliance testing would be indicated. If the compliance testing confirms original conclusions about internal controls, extensive substantive testing would not be necessary. 20



Minimizing Audit Risk

One part of overall audit risk is, as stated previously, client risk. The second element of overall audit risk is audit risk. It can be minimized by employing audit procedures that are appropriate and of sufficient quality, given the level of client risk present.

Audit risk is best controlled through effective audit methodology and procedures and their appropriate application by skilled auditors.

As defined earlier, audit risk can result from sampling risk or other, non-sampling related risks. Sampling risk relates to sufficiency of audit testing. As long as only a portion of the total population is examined, there will always be a risk that the sample is not representative of the total population. The extent of sampling risk can be quantified and thus controlled when statistical sampling techniques are used. Given the desired precision level, the auditor can adjust the audit sample size to achieve a desired reliability level. For judgemental, randomly selected samples, there are no objective means for determining sample risk. Consequently, from a risk control viewpoint, it is preferable to use statistical sampling techniques for the selection of audit samples. 21

Non-sampling risk can best be controlled through quality audit management, supervision and review; audit training resources; quality audit methodology and procedures; co-ordination between audit team members; availability of auditors appropriate for the requirements of the examination; and adequate time resources.



CONCLUSION

This paper defines overall audit risk in terms of the valuefor-money areas of economy, efficiency and effectiveness. Overall audit
risk affects the audit entity by allowing diseconomies, inefficiencies
and ineffectiveness to persist. Overall audit risk also has serious
effects for our Office in terms of providing false comfort to
Parliament, which relies on our audit conclusions. There are two ways
to minimize overall audit risk. The first is to select areas for audit
based on risk. The second is to employ audit procedures that are
appropriate and of sufficient quality to detect significant deficiencies
that exist.

Notes

- 1. Discussion Paper No. 19, Report on the Review of the Evolution of Comprehensive Auditing, May 1983, p. 30.
- Updated Draft Report on Audit Philosophy Project, 25 May 1984, p.
 7.
- 3. Extent of Audit Testing, A Research Study, CICA, 1980, p. 49.
- 4. <u>ibid</u>, p. 49
- 5. P. Munter, "Risk and Materiality in an Audit", <u>Canadian Public Accountant Journal</u>, November 1984, pp. 34-40.
- 6. C. Brewer, <u>Audit Risk: Auditors' Perceptions and a Proposed</u>

 <u>Taxonomy for Audit Risk Analysis</u>, 1982. Peat, Marwick, Mitchell
 Foundation Audit Research Papers.
- 7. Extent of Audit Testing, A Research Study, CICA, p. 48.
- 8. A. Andersen and Co., <u>Guide for Studying and Evaluating Internal</u>
 <u>Controls in the Federal Government</u>, 1982.
- 9. <u>ibid</u>, p. 13
- 10. <u>ibid</u>, p. 9
- 11. <u>ibid</u>, p. 9
- 12. <u>ibid</u>, p. 22
- 13. <u>ibid</u>, p. 23
- 14. <u>ibid</u>, p. 24
- 15. <u>ibid</u>, p. 24
- 16. <u>ibid</u>, p. 25
- 17. <u>ibid</u>, p. 25
- 18. <u>ibid</u>, p. 27
- 19. <u>ibid</u>, p. 28
- 20. Extent of Audit Testing, A Research Study, CICA, 1980, p. 50
- C.S. Warren, "Audit Risk", <u>The Journal of Accountancy</u>, August 1979, p. 70